HC-06 BT Module+Adapter

PIN Name	PIN #	Pad type	Description	Not
GND	13 21 2	VSS	Ground pot	
1V8	1	VDD	Integrated 1.8V (+) supply	
			with On-chip linear regulator output within	
VCC	1 2	3.3V		
AIO0	9	Bi-Directional	Programmable input/output	
AIO1	1 0	Bi-Directional	Programmable input/output	
PIO0	2 3	Bi-Directional RX EN	Programmable input/output line, control output for LNA(if fitted)	
PIO1	2 4	Bi-Directional TX EN	Programmable input/output line, control output for PA(if fitted)	
PIO2	2 5	Bi-Directional	Programmable input/output	
PIO3	2 6	Bi-Directional	Programmable input/output	
PIO4	2 7	Bi-Directional	Programmable input/output	
PIO5	2 8	Bi-Directional	Programmable input/output	
PIO6	2 9	Bi-Directional	Programmable input/output	CLK_REQ
PIO7	3 0	Bi-Directional	Programmable input/output	CLK_OUT
PIO8	3 1	Bi-Directional	Programmable input/output	
PIO9	3 2	Bi-Directional	Programmable input/output	

PIO10	33	Bi-Directional	Programmable input/output	
PIO11	34	Bi-Directional	Programmable input/output	

RESETB	11	CMOS Input with weak intemal		
UART_RTS	4	CMOS output, tri-stable with weak	UART request to send, active low	
UART_CTS	3	CMOS input with weak internal	UART clear to send, active low	
UART_RX	2	CMOS input with weak internal	UART Data input	
UART_TX	1	CMOS output, Tri-stable with weak internal	UART Data output	
SPI_MOSI	17	CMOS input with weak internal	Serial peripheral interface data input	
SPI_CSB	16	CMOS input with weak internal	Chip select for serial peripheral interface, active low	
SPI_CLK	19	CMOS input with weak internal	Serial peripheral interface clock	
SPI_MISO	18	CMOS input with weak internal	Serial peripheral interface data Output	
USB_-	15	Bi-Directional		
USB_+	20	Bi-Directional		

1.8V	14		1.8V	1.8V
PCM_ CLK	5	Bi-Directional		
PCM_OUT	6	CMOS output		
PCM_IN	7	CMOS Input		
PCM_ SYNC	8	Bi-Directional		

Test Condition 25RH 65%

		Min	Typ	Max	Unit
1.	Carrier Freq. (*ISM Band*)	2.4		2.4835	MHz
2.	RF O/P Power	-6	2	4	dBm
3.	Step size of Power control	2		8	dB
5.	Freq. Offset (*Typical Carrier freq.*)	-75		75	KHz
6.	Carrier Freq. drift (*Hopping on, drift rate/50uS*)	-20		20	KHz
	1 slot packet	-25		25	KHz
	3 slot packet	-40		-40	KHz
7.	Average Freq. Deviations (*Hopping off, modulation*)	140		175	KHz
	Freq. Deviation	115			KHz
	Ratio of Freq. Deviation	0.8			
8 .	Receive Sensitivity @< 0.1% BER*(Bit error rate*			)-83	dBm

How to make the module enters the AT command mode:

1. Make sure the BT module is working under idle mode, its LED will blink quickly,(if the module is already setup a connection with any BT hosts, then the LED will light up forever.)

2. Set the UART device connected with the BT module to 9600bsp, 1 stop bit, non-flow control, now user can send the AT command to the device, take the basic AT command "AT" for example, you can send it to the BT module , and the BT module will response with "OK", please note, there is no " \r\n" characters after the "AT" command. You just need to send "AT", the HEX value is "41 54", you can not send "41 54 0D 0A". If everything is correct, then the module will be OK for response.

For the KEY function, when used for the old HC-05 modules, the KEY pin is used to pull up high to make the module enters the AT command mode; For the new HC-06 slave module, it's used to make the module re-search the new devices after power up and stop the device to be connected from the old BT host. So the KEY pin is working as the "new device search function".

Typical AT commands as followed:

1, test communications
Send: AT (returns OK, send a second or so)
Return: OK

2, change the Bluetooth serial port baud rate
Send: AT + BAUD1
Returns: OK1200

Send: AT + BAUD2
Returns: OK2400

1---------1200
2---------2400
3---------4800
4---------9600
5---------19200
6---------38400
7---------57600
8---------115200
9---------230400
A---------460800
B---------921600
C---------1382400

Not recommended for use in more than 115200 baud rate, signal interference make the system unstable. After setting more than 115,200 can not be used with a computer, use the microcontroller programming on more than 115200 baud rate and re-use this to send AT command set baud rate low. The baud rate with AT command set, the next time do not need to use the power set, you can power down to save the baud rate.

3, change device name
Send: AT + NAMEname
Returns: OKname
Parameter name: name of the current to be set, that Bluetooth is the name search. 20 characters or less.
Example: Sending AT + NAMEbill_gates
Back OKname
Then the Bluetooth name to bill_gates
Parameters can power down to save, just modify one. PDA terminal services can see the changes after refreshing the Bluetooth name.

4, change pairing password
Send: AT + PINxxxx
Returns: OKsetpin
Parameters xxxx: password pair to be set, 4 bytes, this command can be used from the machine or host. Adapter from the machine or cell phone is asked to enter the pairing password pop-up window, then manually enter this parameter, you can connect from the machine. Host is in the Bluetooth module connected with the main digital camera, digital camera from the machine, find the camera pairs, and then entered the Bluetooth module is located, the main Bluetooth module can automatically connect the camera.

Example: Sending AT + PIN8888
Back OKsetpin
Bluetooth passkey to 8888 when module pair
factory default password is 1234.